

Cisco IPeXchange Internet Gateways for Networks



This chapter provides information on the Cisco IPeXchange Internet Gateways. The chapter is divided into IPeXchange hardware and software. The information is organized into the following sections:

- IPeXchange Hardware Product Overview
 - Standard Features
 - Product Configurations
 - Internet and Client/Server Applications
 - Product Numbers
- IPeXchange Software Product Overview
 - Standard Features
 - Product Numbers

IPeXchange Hardware Product Overview

Cisco's IPeXchange Internet Gateways provide secure Internet access for Novell LANs. They allow you to run TCP/IP services (for example, Web, Telnet, and e-mail) on IPX networks. Its unique IPX-to-IP translation technology provides for an easy to install and completely secure firewall solution for NetWare Networks. Only one IP address is required to connect an entire Novell network to the Internet. Both hardware and PC software versions of IPeXchange are available.

There are three Cisco IPeXchange 1000 series Internet Gateway models: the IPeXchange 1003 and IPeXchange 1004 support Ethernet-to-Integrated Services Digital Network (ISDN) connectivity; the IPeXchange 1005 supports Ethernet-to-Frame Relay or Ethernet-to-leased line connectivity. All Cisco IPeXchange 1000 series Internet Gateways support Point-to-Point Protocol (PPP), compression, and several other powerful features for optimizing WAN bandwidth and costs.

Cisco IPeXchange server software runs on Cisco 1000 series router hardware, providing access to TCP/IP services over IPX networks as well as WAN connectivity and firewall security between local and remote networks. Other IPX-to-IP gateway software products typically require an expensive, dedicated PC or run on a NetWare server, degrading file server performance.

IPeXchange client software includes drivers for Windows PCs, which support all WINSOCK v1.1-compliant third-party commercial and public domain TCP/IP applications. IPeXchange Internet Gateways use IPX protocols on the LAN, saving the expense and burden of supporting TCP/IP software in each desktop computer. Netscape Navigator for Windows is included to make connecting to the Internet fast and easy.

The exciting Cisco IPeXchange 1000 series Internet Gateways make connecting small remote sites with Novell NetWare networks to the Internet and to other IP-based networks easier and more affordable than ever. These innovative products enhance Cisco's family of remote access solutions.

Cisco IPeXchange 1000 series Internet Gateways can be managed through an attached console or over the network via a Telnet session. The 50-user versions also can be managed via SNMP using SNMP network management tools. This centralized management capability eliminates the need for network management expertise at the remote sites.

Cisco IPeXchange Internet Gateway software is based on Cisco Internet Operating System (Cisco IOS) technologies, and supports many Cisco IOS bandwidth optimization features. Up to 4:1 compression for WAN speeds up to 128 kbps maximizes data throughput. Access Control Lists filter out undesired network traffic. Priority and custom queuing ensure that delay-sensitive data receives the required priority. Dial-on-demand routing (DDR) makes a dial-up WAN (for example, ISDN) connection only when significant data needs to be communicated; at other times, the connection is down, saving WAN charges.

Standard Features

Cisco IPeXchange 1000 series Internet Gateways offer the following features:

- TCP/IP applications over IPX networks
- IP packet static routing
- 20- and 50-concurrent-user versions
- Client driver software compatible with all WINSOCK v1.1- compliant third-party commercial and public domain TCP/IP applications
- Fully supported 20- or 50-concurrent-user license for Netscape Navigator for Windows
- Cisco ClickStart allows easy configuration and monitoring using Web browser software, such as Netscape Navigator
- High-Level Data Link Control (HDLC) and standards-based PPP
- Up to 4:1 compression, queuing, and other WAN bandwidth optimization features
- Increased security with Challenge Handshake Authentication Protocol (CHAP), Password Authentication Protocol (PAP), packet filters, and local password
- Network management and monitoring using ClickStart, Telnet, and through the console port. The 50-user versions also support SNMP
- One Ethernet 10BaseT port with an RJ-45 connector



- One WAN port:
 - IPeXchange 1003, 1004: ISDN BRI (1003) or ISDN BRI with integrated NT1 (1004) with RJ-45 connector, support ISDN at speeds up to 128 kbps; with 4:1 data compression, raw throughput speeds of 512 kbps are possible.
 - IPeXchange 1005: synchronous serial port with 60-pin, 5-in-1 connector supports Frame Relay and leased lines at speeds up to 2.048 Mbps. Optional cables support EIA/TIA-232, X.21, V.35, EIA/TIA-449, and EIA/TIA-530 interfaces.
- One console port with RJ-45 connector
- One Flash ROM PC card to store software image and configuration file, allowing software updates over the WAN or LAN connections

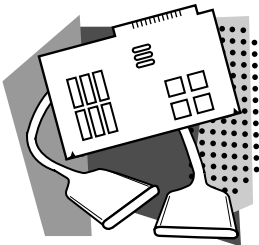
Product Configurations

Cisco IPeXchange Internet Gateways are available in 20- or 50-concurrent-user versions. Upgrades from 20-user to 50-user versions are available. Server software is provided on a 2-MB Flash ROM PC card. The default DRAM configuration is 4 MB for the 20-user version and 8 MB for the 50-user version.

Internet and Client/Server Applications

Cisco IPeXchange Internet Gateways provide Novell NetWare users with simple, cost-effective, secure access to the Internet for applications such as e-mail, file transfers, and browsing the Internet.

Cisco IPeXchange Internet Gateways also offer you easy connectivity to IP-based services on hosts at central sites, allowing transparent access to client/server applications such as e-mail, file service, and print service.



Product Numbers

Table 308 lists the product numbers you can use to order IPeXchange or upgrade an existing configuration.

Table 308 Cisco IPeXchange Internet Gateway Product Numbers

Description	Product Number
Cisco IPeXchange Gateway 1000 Series Products (including software)	
IPeXchange 1003 Internet Gateway Ethernet/ISDN-BRI—20 user	CA-IG-1003-20
IPeXchange 1003 Internet Gateway Ethernet/ISDN-BRI—50 user	CA-IG-1003-50
IPeXchange 1004 Internet Gateway Ethernet/ISDN-NT1—20 user	CA-IG-1004-20
IPeXchange 1004 Internet Gateway Ethernet/ISDN-NT1—50 user	CA-IG-1004-50
IPeXchange 1005 Internet Gateway Ethernet/Serial—20 user	CA-IG-1005-20
IPeXchange 1005 Internet Gateway Ethernet/Serial—50 user	CA-IG-1005-50

Description	Product Number
IPeXchange 100 Options and Cables—Models 1003, 1004, and 1005	
4-MB to 8-MB DRAM upgrade for Cisco 1003	MEM-1003-8MD
4-MB to 8-MB DRAM upgrade for Cisco 1004	MEM-1004-8MD
4-MB to 8-MB DRAM upgrade for Cisco 1005	MEM-1005-8MD
8-MB DRAM SIMM for Cisco 1003,1004,1005	MEM-1000-8MD=
2-MB to 4-MB Flash upgrade for Cisco 1003,1004,1005	MEM-1000-2U4F
Cisco 1000 console cable	CAB-1000-CON=
Cisco 1000 AC power supply	PWR-1000-AC1=
Cisco 1000 AC power supply—North America only	PWR-1000-NA1=
IPeXchange 1000 Series Options and Cables—Model 1005	
V.35 cable, DTE, male, 10'	CAB-V35MT
EIA/TIA-232 cable, DTE, male, 10'	CAB-232MT
EIA/TIA-449 cable, DTE, male, 10'	CAB-449MT
X.21 cable, DTE, male, 10'	CAB-X21MT
EIA-530 cable, DTE, male, 10'	CAB-530MT
Software Upgrades (requires 8-MB DRAM)	
IPeXchange Internet Gateway 1003, 50-user upgrade (diskette)	SW1003IU-110.6.1=
IPeXchange Internet Gateway 1004, 50-user upgrade (diskette)	SW1004IU-110.6.1=
IPeXchange Internet Gateway 1005, 50-user upgrade (diskette)	SW1005IU-110.6.1=
Maintenance and Installation	
IPeXchange Internet Gateway 1003 SMARTnet maintenance	CON-SNT-IG-1003
IPeXchange Internet Gateway 1004 SMARTnet maintenance	CON-SNT-IG-1004
IPeXchange Internet Gateway 1005 SMARTnet maintenance	CON-SNT-IG-1005

IPeXchange Software Product Overview

IPeXchange is a PC-based software that connects Novell networks to the Internet. The software allows you to run TCP/IP services (for example, Web, Telnet, and e-mail) on IPX networks. Only one IP address is required to connect an entire network. Included with IPeXchange software is both the NetWare and Windows NT gateway software. Netscape Navigator software is also included, offering a complete, economical, and easy-to-implement solution for World Wide Web access by NetWare clients.

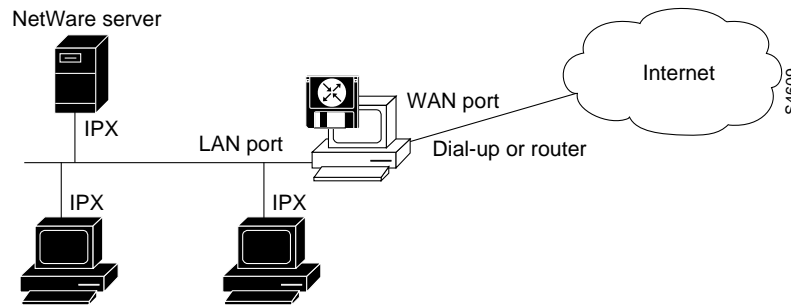
Delivered as true client/server software, Cisco IPeXchange operates on a PC for the Internet Gateway and supports Windows 3.1, Windows for Workgroups, and Windows 95 clients. The software supports various WAN connections, including dial-up, ISDN, Switched 56, T1/E1, or T3.

Cisco IPeXchange Internet Gateways can be configured to implement a security firewall between the IPX network and the public Internet, preventing intruders from accessing desktop computers or the NetWare servers. Since IP addresses are not located anywhere

on the LAN, the network is effectively isolated from the Internet. Challenge Handshake Authentication Protocol (CHAP), Password Authentication Protocol (PAP), access control lists (packet filters), and local passwords can be configured to ensure that only authorized users can access the IPX network or the Internet.

Figure 138 shows the Cisco IPeXchange software solution for secure Internet access.

Figure 138 Cisco IPeXchange Software Solution



Standard Features

Cisco IPeXchange software includes the following standard features:

- No TCP/IP on the desktop—reduces memory, support, and ongoing maintenance costs
- Effective firewall—isolates Novell servers and clients from the Internet, reducing chances of successful intrusion
- Single IP address—no desktop configuration or IP maintenance overhead
- Easy to install, no reengineering of LAN—secure and low cost-per-node Internet connectivity for entire Novell network in a couple of hours
- Scalable Internet access—supports your choice of dial-out, ISDN, 56K, or T1 as bandwidth needs increase
- Load balancing, fault tolerance—multiple machines running gateway offer load balancing and fault tolerance architecture
- TCP/IP gateway for databases and Lotus Notes—Cisco IPeXchange software facilitates SQL-Net, SAP, and Lotus Notes clients to access corresponding database and Notes server on TCP/IP hosts

Table 309 summarizes Cisco IPeXchange software specifications.

Table 309 Cisco IPeXchange Software Specifications

Features	Description
LAN options	Novell NetWare 3 and NetWare 4
WAN options	PPP/SLIP (via dial-up modem), ISDN, Frame Relay, 56K, T1/E1, T3

Features	Description
Other software provided	Netscape Navigator, concurrent license
Licenses available	5, 10, 25, 50, 100, 250, 500, 1000 concurrent users Site license available 10-, 25-, and 50-user upgrades are also available

Table 310 lists Cisco IPeXchange software system requirements.

Table 310 Cisco IPeXchange Software System Requirements

Description	Specifications
Client platform:	
CPU	IBM PC or compatible
Operating system	Microsoft Windows, Windows for Workgroups, or Windows 95
Network	Novell NetWare 3 and NetWare 4
Applications	WINSOCK 1.1-compliant applications
Gateway platform:	
CPU	IBM PC or compatible
Operating system	Windows NT, Workstation or Server, NetWare 3 or NetWare 4. Product ships with Gateway for both NLM and NT.

Product Numbers

Table 311 lists the product numbers associated with the Cisco IPeXchange software.

Table 311 Cisco IPeXchange Software Product Numbers

Description	Product Number
Internet Gateway NLM/NT, license for 5 users	CIJ-NT-5
Internet Gateway NLM/NT, license for 10 users	CIJ-NT-10
Internet Gateway NLM/NT, license for 25 users	CIJ-NT-25
Internet Gateway NLM/NT, license for 50 users	CIJ-NT-50
Internet Gateway NLM/NT, license for 100 users	CIJ-NT-100
Internet Gateway NLM/NT, license for 250 users	CIJ-NT-250
Internet Gateway NLM/NT, license for 500 users	CIJ-NT-500
Internet Gateway NLM/NT, license for 1000 users	CIJ-NT-1000
Internet Gateway NLM/NT, upgrade license for 10 additional users ¹	CIJ-NT-U10
Internet Gateway NLM/NT, upgrade license for 25 additional users	CIJ-NT-U25
Internet Gateway NLM/NT, upgrade license for 50 additional users	CIJ-NT-U50

1. Upgrade licenses are “bump-up” licenses. For example, a 10-user license with a 10-user upgrade creates a 20-user concurrent license.